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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,588	06/25/2003	Robert William Sutter	2006.66594	5864
24978	7590	09/09/2004	EXAMINER	
GREER, BURNS & CRAIN 300 S WACKER DR 25TH FLOOR CHICAGO, IL 60606			CAO, HUEDUNG X	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/603,588

Applicant(s)

SUTTER ET AL.

Examiner

Huedung X Cao

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7, and 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Moore et al. (US 6369775).

With respect to claim 1, Moore teaches a multiple bandwidth antenna assembly comprising:

a helical radiator having at least a first helical pitch and a second helical pitch (piches sections 16, 18, and 20, column 2, line 55); a core plug having a first axial piece and a second axial piece that abut one another (core plug 14, column 2, line 53); and a first recessed pattern configured on said first axial piece to engage at least said first helical pitch and a second recessed pattern configured on said second axial piece to engage at least said second helical pitch (column 2, lines 51-60).

Claim 2 adds into claim 1, wherein said first axial piece and said second axial piece are configured to couple with one another (figure 1B; column 2, line 61-column 3, line 47).

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Claim 3 adds into claim 1, wherein said first axial piece and said second axial piece threadedly engage one another (figure 1B; column 2, line 61-column 3, line 47).

Claim 4 adds into claim 1, wherein said first axial piece and said second axial piece engage one another in a snap fit engagement (figure 1B; column 2, line 61-column 3, line 47).

Claim 5 adds into claim 1, wherein medial 2 ends of each of said first and second axial pieces are configured to matingly 3 engage one another (figure 1B; column 2, line 61-column 3, line 47).

Claim 6 adds into claim 1, wherein medial 2 ends of each of said first and second axial pieces are configured to frictionally 3 engage one another (figure 1B; column 2, line 61-column 3, line 47).

Claim 7 adds into claim 1 wherein, medial 2 ends of each of said first and said second axial pieces are configured to be in 3 abutment with one another (figure 1B; column 2, line 61-column 3, line 47).

With respect to claims 12-15, wherein one of said first and second recessed patterns includes a second helical pitch, wherein said second recessed pattern is configured to engage both of said first and said second helical pitches, wherein said first and second recessed patterns each include a second helical pitch, wherein said helical radiator is configured to engage said first and second helical pitches and each of said first and second recessed patterns (column figure 1B).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore et al. (US 6369775).

With respect to claim 8, wherein medial 2 ends of each of said first axial piece and said second axial piece are held in engagement by adhesion which Moore does not explicitly disclose. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the adhesive to bond the helical radiators together.

With respect to claim 9, wherein said 2 first helical pitch creates resonance at a frequency of 1575MHz and a combination of said first helical pitch and said second helical pitch creates resonance between 806 and 941 MHz which Moore does not explicitly disclose. However, It would have been obvious to one having ordinary skill in the art to use different frequency, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art.

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With respect to claims 10 and 11, wherein said second axial piece is made of a relatively more elastic material than said first axial piece, and wherein said second axial piece comprises Lexan 141 and said first axial piece comprises Texin 255 which Moore does not explicitly disclose. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the adhesive to bond the helical radiators together.

Claims 16-23 are similar in scope to claims 1-15; therefore, they are rejected for the same reason.

Claims 24-31 are similar in scope to claims 1-15; therefore, they are rejected for the same reason.

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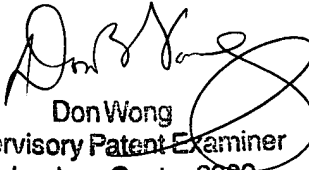
Inquires

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huedung Cao whose telephone number is (571) 272-1939.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Huedung Cao
Patent Examiner


Don Wong
Supervisory Patent Examiner
Technology Center 2800